

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for transmitting in an Orthogonal Frequency Division Multiplexing (OFDM) system using a plurality of transmission antennas, the method comprising the steps of:

creating a plurality of training symbol groups to perform channel estimation corresponding to the plurality of transmission antennas, by grouping a plurality of training symbols into the plurality of training symbol groups according to the frequency of the timing symbols; and

transmitting each of the training symbol groups only once from each of the plurality of transmission antennas at predetermined time intervals.

2. (Previously Presented) The method of claim 1, wherein the number of the plurality of training symbol groups is equal to the number of the plurality of transmission antennas, and allocated in a non-overlapping pattern, and are simultaneously transmitted through the number of the plurality of transmission antennas.

3. (Previously Presented) The method of claim 2, wherein the plurality of training symbol groups are sequentially allocated to the plurality of transmission antennas.

4. (Previously Presented) The method of claim 1, wherein the training symbols are grouped into the plurality of training symbol groups by:

$$x_i^p = \begin{cases} c_i & i = (m-1)N_t + p \\ 0 & \text{otherwise} \end{cases}$$

$$0 \leq p \leq N_t - 1, 1 \leq i \leq N_c N_t$$

where x_i^p is a training symbol included in the p^{th} training symbol group, N_t is the number of antennas or the number of training symbol groups, c_i is an arbitrary complex of a magnitude $\sqrt{N_t}$, m is an integer lower than N_c , and N_c is number of training symbols allocated to one transmission antenna.

5. (Previously Presented) The method of claim 1, wherein each of the plurality of transmission antennas transmits a specific sub-carrier equal to the number of the plurality of transmission antennas, and transmits each of the plurality of training symbol groups only once.

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Previously Presented) An apparatus for transmitting in an Orthogonal Frequency Division Multiplexing (OFDM) system using transmission antennas, the apparatus comprising:
a distributor for creating a plurality of training symbol groups to perform channel estimation corresponding to the plurality of transmission antennas, by grouping a plurality of training symbols into the plurality of training symbol groups according to the frequency of the training symbols, and transmitting the plurality of training symbol groups through the plurality of transmission antennas, so that each transmission antenna from among the plurality of transmission antennas transmits all of the plurality of training symbol groups by transmitting each training symbol group only once at predetermined time intervals; and
the plurality of transmission antennas for transmitting the training symbol groups received from the distributor.

11. (Previously Presented) The apparatus of claim 10, wherein the number of the plurality of training symbol groups is equal to the number of the plurality of transmission antennas, and wherein the distributor allocates the plurality of training symbol groups in a non-overlapping pattern, and simultaneously transmits the plurality of training symbol groups through the number of the plurality of transmission antennas.

12. (Previously Presented) The apparatus of claim 11, wherein the distributor sequentially allocates the plurality of training symbols to the plurality of transmission antennas.

13. (Previously Presented) The apparatus of claim 10, wherein the distributor groups the training symbols into the plurality of training symbol according to

$$x_i^p = \begin{cases} c_i & i = (m-1)N_t + p \\ 0 & \text{otherwise} \end{cases}$$

$$0 \leq p \leq N_t - 1, 1 \leq i \leq N_c N_t$$

where x_i^p is a training symbol included in the p^{th} training symbol group, N_t is the number of antennas or the number of training symbol groups, c_i is an arbitrary complex of a magnitude $\sqrt{N_t}$, m is an integer lower than N_c , and N_c is the number of training symbols allocated to one transmission antenna.

14. (Previously Presented) The apparatus of claim 10, wherein each of the plurality of transmission antennas transmits a specific sub-carrier, the number of sub-carriers being equal to a multiple of the number of the plurality of the transmission antennas, and transmits each of the plurality of training symbol groups only once.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)